



16711/ISIP
D8(m) Policy Ltr 03-2004
03 May 2004

MEMORANDUM

From: D. F. RYAN II
CGD8 (m)

A handwritten signature in black ink, appearing to read "D. F. Ryan II", written over a horizontal line.

To: Distribution

Subj: IN-SERVICE INSPECTION PROGRAM (ISIP) FOR FLOATING FACILITIES IN
THE OUTER CONTINENTAL SHELF (OCS)

Ref: (a) Commandant (G-MOC-2) Policy Letter No. 03-01 dtd 11Feb03

1. **PURPOSE:** This letter provides Eighth Coast Guard District (D8) guidance on the review and approval of ISIP Plans. In addition, this policy letter provides guidance in the application of reference (a).
2. **DIRECTIVES AFFECTED:** None.
3. **BACKGROUND:**
 - a. A floating OCS facility may submit an ISIP Plan to the Coast Guard for approval, to establish an acceptable inspection cycle and procedures for conducting structural exams in lieu of meeting the drydocking requirements of a traditional vessel or MODU. The plan, once approved, allows the facility to be inspected but remain on-station throughout its field-depletion lifetime.
 - b. In the past, COMDT (G-MOC-2) approved ISIP Plans for floating OCS facilities that called for "rolling" annual hull exams that resulted in the entire internal and external structure being examined "once-in-5 years".
 - c. Reference (a) transfers the authority for the review and approval of ISIP Plans to the Officer in Charge, Marine Inspection (OCMI) of the zone where the facility will initially operate. It also increases the inspection cycle for these facilities to require at least 40% of the internal and external hull to be examined annually, equating to the "twice-in-5 year" inspection cycle required for traditional vessels and MODUs. Under certain circumstances, reference (a) authorizes OCMI's to reduce this hull inspection cycle to 20% annually (equating to a "once-in-5 year" cycle) and place a facility in a Modified Inspection Program. The decision to allow a facility to be placed in the Modified Inspection Program is based on the results of previous exams of similar facilities, the quality of inspections by the operating company, and any unique operating conditions or design features of the facility.

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- d. ISIP Plans that were previously approved by G-MOC-2 may continue to be used unless a situation occurs that results in the OCMI determining that the plan should be modified.

4. **DISCUSSION:**

- a. The following are the known classes of floating OCS facilities that are currently operating or will be operating in the Gulf of Mexico:
 - (1) Semi-Submersible;
 - (2) Classic Tension Leg Platform (TLP);
 - (3) SeaStar Mini-TLP;
 - (4) Modec Mini-TLP;
 - (5) Classic Spar;
 - (6) Truss Spar; and
 - (7) Cell Spar.
- b. Enclosure (1) lists the classes of facilities, along with their present and projected numbers. These tables should be consulted to determine how much operational history each class of facility has had and whether they have had a history of design problems. While most Semi-Submersibles and Classic TLPs are similar in design, there have been many new innovations such as Mini-TLPs (SeaStars and Modec designs) and various Spar designs (Classic Spars, Truss Spars, Cell Spars). With the exception of Semi-Submersibles and Classic TLPs, there is very little operational history and statistical data to identify potential design flaws with the new and evolving types of floating OCS facility designs. The following facilities have already experienced some design and/or maintenance problems:
 - (1) Spar (operating since '00) – potential corrosion problem, rapid deterioration of zinc anodes in well bay;
 - (2) Spar (operating since '98) – hull fractures at attachments for riser guides;
 - (3) TLP (operating since '97) – sea valve inoperability caused by marine growth;
 - (4) TLP (operating since '89) – pitting in some of the tanks.

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- c. Under the 40% annual inspection cycle (equivalent to twice-in-5 years), some companies may find it more beneficial to inspect 100% of the hull every 2-1/2 years vs. 40% every year. For facilities on the Modified Inspection Program (20% annual inspection cycle which is equivalent to once-in-5 years), companies may desire to inspect 50% of the hull every 2-1/2 yrs vs. 20% every year. Both of these inspection cycles provide an equivalent level of safety to the inspection cycles specified in reference (a), and they are considered acceptable alternatives within D8, as discussed in paragraph 5.e.

5. **ACTION:**

- a. As per reference (a), the ISIP is to be submitted to the cognizant OCMI at least 90 days prior to the floating facility's entry date into service, which is the date the Certificate of Inspection is issued and is usually the date of "first oil".
- b. If the **facility class** is of a novel or unconventional design, the OCMI shall, as a general rule, require the "twice-in-5 year" (40% annually) inspection cycle for the first 5 years of the floating OCS facility's service life. If no problems occur after 5 years, the OCMI may consider allowing the "once-in-5 year" (20% annually) cycle. A facility class is considered novel or unconventional if:
 - (1) There is no known facility of similar design on the U.S. OCS; and
 - (2) There is no design standard (i.e. Coast Guard regulations, classification society rules accepted by the Coast Guard, or industry standards accepted by the Coast Guard) on the facility.
- c. The flowchart contained in enclosure (2) should be used to determine if a facility is eligible for the Modified Inspection Program, which allows for a "once-in-5 year" (20% annually) cycle. Existing facilities that had ISIP Plans approved by G-MOC-2 may continue to comply with their ISIP Plans and remain in their existing hull inspection cycle unless a situation occurs that results in the OCMI determining that the plan should be modified.
- d. As per reference (a), the ISIP Plan must identify Structural Critical Inspection Points (SCIP). The SCIP section of the ISIP Plan must include an explanation as to why a section/area is designated as a SCIP and must be reviewed and approved by the facility's classification society. In the event the facility is not classed, the Coast Guard's Marine Safety Center (MSC) will conduct the review of the SCIP section of the ISIP Plan. (Although not directly applicable, the guidance contained in the original NVIC 15-91 may be of use in developing the SCIP.)

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- e. If desired, a company may have 100% of the hull inspected every 2-1/2 years as an acceptable alternative to 40% annually. If the facility is under the Modified Inspection Program, a company may have 50% of the hull inspected every 2-1/2 years as an acceptable alternative to 20% annually. In any case, the examination must be conducted within 2-3 years of the last examination and no more than 5 years may elapse from the previous. Enclosure (3) should be used as general guidance.
- f. During each hull examination under both the "twice-in-5 year" and the "once-in-5 year" cycles, the internal hull exam shall be conducted at different areas from the external hull exam. For example, if an internal exam is conducted in one quadrant, the external exam should be conducted in a different quadrant. However, if fractures, flaws, or corrosion is noted on one side (on the interior or exterior) of the hull plating, the other side of the plating should be examined.
- g. Under both the "twice-in-5 year" and the "once-in-5 year" hull examination cycles, the ISIP Plan must address the following in detail:
 - (1) The method to blank/plug and remove each sea valve during each 5-year period;
 - (2) The method to ensure operability of each sea valve and to externally examine all sea chests/valves for deterioration and marine growth during each 2 ½ year period;
 - (3) The inspection technique for inspecting the shell plating from the inside;
 - (4) The inspection technique for inspecting the underwater portion of the hull;
 - (5) The inspection technique for inspecting tendons and tendon connections on TLPs and mooring systems on other floating facilities, conducted in conjunction with the external hull exam;
 - (6) The extent of each annual inspection and the areas to be inspected for the lifetime of the facility at the intended site;
 - (7) The manner in which deficiencies and the procedures for their repair will be handled; and
 - (8) The precise location and description of all compartments that are inaccessible, and the provisions taken to assure continued integrity of the compartments.
- h. As per reference (a), facilities 15 years of age and older that are in the Modified Inspection Program should return to the twice-in-5 year inspection cycle for the hull. However, the company may request an extension from the cognizant OCMI to remain in

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the Modified Inspection Program based on the condition of the facility. If no adverse conditions are noted, as per reference (a) the OCMI may allow the facility to remain in the Modified Inspection Program.

- i. As per reference (a), when a severe weather system causes a total evacuation of the facility and damage to its structure is suspected, an out-of-cycle underwater and internal structural inspection should be initiated. The out-of-cycle inspection does not have to be conducted if the company can demonstrate that local environmental conditions at the facility's location did not exceed a Category One hurricane, so that no damage is suspected.
 - j. Internal and external hull inspections conducted as per the ISIP Plan must be completed to the satisfaction of the attending Coast Guard (CG) marine inspector in order for the company to receive credit for the hull examination. Third party inspectors are not to be used as a replacement for the CG inspector; however, they may be used to augment the CG inspector and perform specialized inspection tasks such as nondestructive testing (NDT). The scheduling of the hull examination and other required CG inspections (i.e. Inspections for Certification and Annual Inspections) must be coordinated so that CG attendance is required no more than one "visit" per year, unless specifically approved by the OCMI.
 - k. D8 OCMI's are encouraged to distribute this policy letter to floating OCS facility operators within their area of responsibility to ensure that they comply with this guidance.
6. **FEEDBACK:** Feedback or questions on this policy should be referred to the Eighth Coast Guard District, D8(m), at 504-589-2455.

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Encl: (1) Existing and Future Floating OCS Facilities in GOM
(2) Modified Inspection Program Flowchart
(3) Recommended ISIP Guidance

Dist: All Eighth District MSOs & MSUs

Existing & Future Floating OCS Facilities in the Gulf of Mexico (GOM)

Facility Class	Semi-Submersible	TLP			SPAR		
		Classic	SeaStar	Mini-TLP Modec	Classic	Truss	Cell
Number	1 ^{1.}	7 ^{2.}	4 ^{3.}	2 ^{4.}	3 ^{5.}	7 ^{6.}	1 ^{7.}
Oldest	1 yrs	15 yrs	6 yrs	3 yrs	7 yrs	3 yrs	0 yrs
Companies	Shell	Conoco, Shell, BP	AGIP, British-Borneo, Chevron, TotalFinaElf	El Paso, Anadarko	Kerr-McGee, Chevron, Exxon-Mobil	Kerr-McGee, BP, Murphy, Dominion	Kerr-McGee
Problems?	None yet	Pitting (x1)	None yet	None yet	Fractures (x1), Corrosion (x1)	None yet	None yet

Table 1 – Existing FOIs in GOM (as of 5/04)

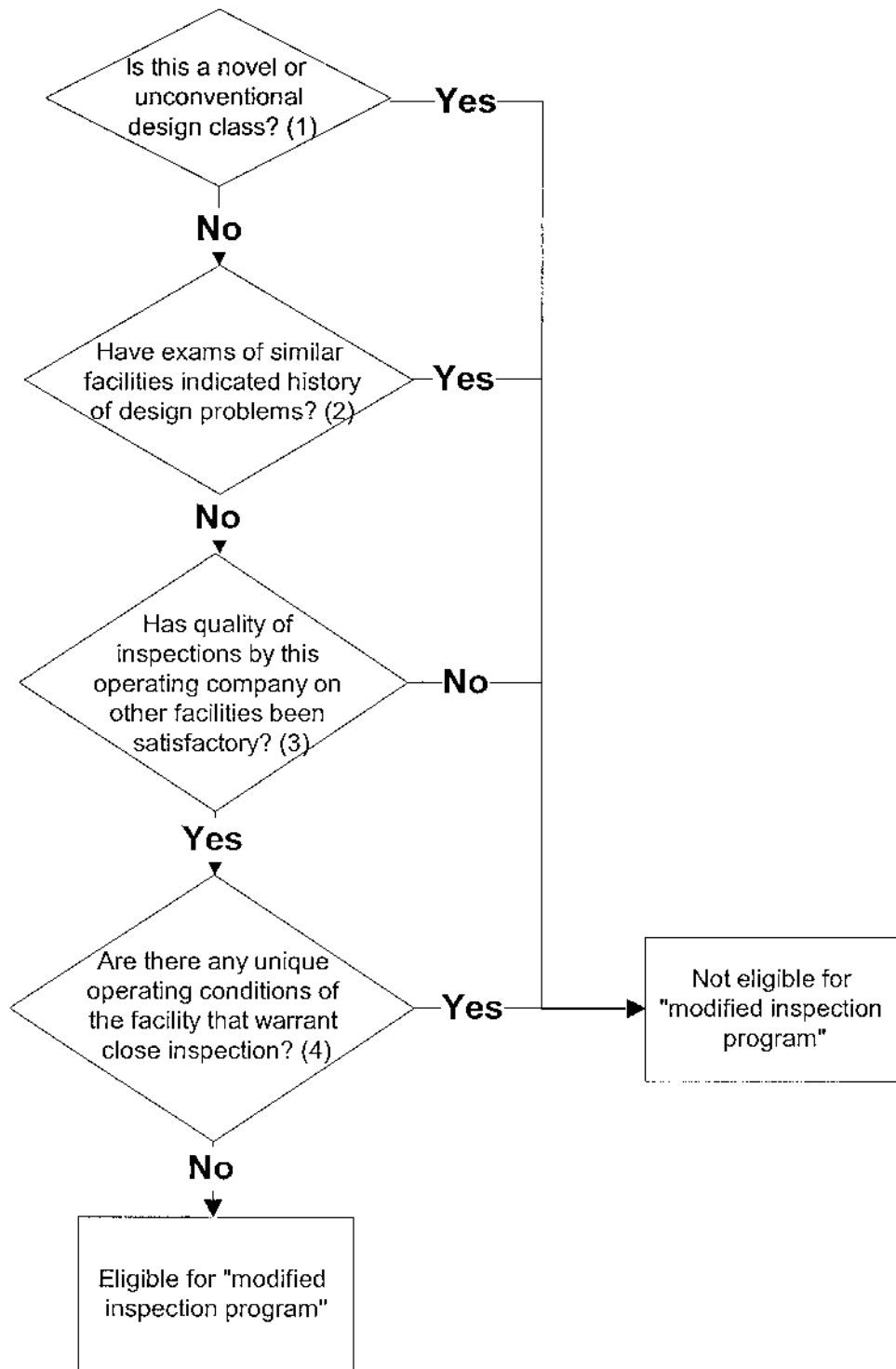
Facility Class	Semi-Submersible	TLP			SPAR		
		Classic	SeaStar	Mini-TLP Modec	Classic	Truss	Cell
Number	2 ^{8.}	1 ^{9.}	0 ^{10.}	0 ^{11.}	0 ^{12.}	2 ^{13.}	0 ^{14.}
Companies	BP	Conoco	N/A	N/A	N/A	BP	N/A

Table 2 – Future FOIs in GOM (as of 5/04)

Footnotes:

- 1. Semi-Submersible: Na Kika '03 (Shell)
- 2. TLP/Classic: Joliet '89 (Conoco); Auger '94, Mars '96, Ram-Powell '97, Ursa '99, Brutus '01 (Shell); Marlin '00 (BP)
- 3. TLP/SeaStar: Sir Douglass Morpeth '98 (AGIP); Allegheny '99 (British-Borneo); Typhoon '01 (Chevron); Matterhorn '03 (TotalFinaElf)
- 4. TLP/Modec: Prince '01 (El Paso); Marco Polo '04 (Anadarko)
- 5. SPAR/Classic: Neptune '97 (Kerr-McGee); Genesis '98 (Chevron); Diana-Hoover '00 (Exxon-Mobil)
- 6. SPAR/Truss: Boomvang '01, Nansen '02, Gummison '03 (Kerr-McGee); Horn Mountain '02 (BP); Medusa '03 (Murphy); Devils Tower '04 (Dominion); Front Runner '04 (Murphy)
- 7. SPAR/Cell: Red Hawk '04 (Kerr-McGee)
- 8. Semi-Submersible: Thunder Horse-'05/2nd qtr, Atlantis-'06/3rd qtr (BP)
- 9. TLP/Classic: Magnolia-'04/3rd qtr (Conoco-Phillips)
- 10. TLP/SeaStar: None
- 11. TLP/Modec: None
- 12. SPAR/Classic: None
- 13. SPAR/Truss: Holstein-'04/4rd qtr, Mad Dog-'04/4th qtr (BP)
- 14. SPAR/Cell: None

MODIFIED INSPECTION PROGRAM



Footnotes:

1. See paragraph 5.b. of this policy letter.
2. The class of facility should have an operating period of at least 5 years. Any design problems noted should be rectified and not reoccur within the next 5 years. If the redesign of the structure eliminates potential design problem, facility may be eligible for the Modified Inspection Program.
3. The company should have a satisfactory history of operating **floating OCS facilities** for a least 5 years. They should be proactive in their preventive maintenance program and are also encouraged to meet some type of quality certification program.
4. Floating Production, Storage & Offload facilities (FPSOs), Floating Production & Offload facilities (FPOs), and Floating Storage & Offload (FSOs) that have a reasonable ability to be drydocked are not eligible for the In-service Inspection Program.

Enclosure (2)

Recommended ISIP Guidance
(Refer to G-MOC-2 Ltr No. 03-01 for specifics)

1.) General guidance to OCMI's for ISIP approvals:

	G-MOC Policy Ltr	D8 equivalency	Inspection Cycle
Internals (Internal Structural Exam)	40% annually	100% @ 2-1/2 yrs ^{1.}	Twice-in-5 yrs
Externals (Underwater Survey)	40% annually	100% @ 2-1/2 yrs ^{1.}	Twice-in-5 yrs

As an option for floating OCS facilities built and inspected in **quadrants**, the following options may apply:

	G-MOC Policy Ltr	D8 equivalency	Inspection Cycle
Internals (Internal Structural Exam)	2 quadrants every 15 months (40% annually)	4 quadrants by 2-1/2 yrs ^{1.}	Twice-in-5 yrs
Externals (Underwater Survey)	40% annually	100% @ 2-1/2 yrs ^{1.}	Twice-in-5 yrs

2.) For qualifying floating OCS facilities (see flow chart), the OCMI may approve an ISIP with this “modified inspection program”:

	G-MOC Policy Ltr	D8 equivalency	Inspection Cycle
Internals (Internal Structural Exam)	20% annually	50% @ 2-1/2 yrs ^{1.}	Once-in-5 yrs
Externals (Underwater Survey)	20% annually	50% @ 2-1/2 yrs ^{1.}	Once-in-5 yrs

As an option for floating OCS facilities built and inspected in **quadrants**, the following options may apply:

	G-MOC Policy Ltr	D8 equivalency	Inspection Cycle
Internals (Internal Structural Exam)	1 quadrant every 15 months (20% annually)	2 quadrants by 2-1/2 yrs ^{1.}	Once-in-5 yrs
Externals (Underwater Survey)	20% annually	50% @ 2-1/2 yrs ^{1.}	Once-in-5 yrs

Footnote:

1. Examinations must be completed within 2-3 years of last, and no more than 5 years from previous.

Enclosure (3)